

YCAB

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1984

NJ

AUTHOR

Evaluation of the Current Business

TITLE

& Strategic Plan of Cap Info. Sys

DATE
LOANED

BORROWER'S NAME

EXHIBIT II-1

GROWTH RATES OF APPLICATION SOFTWARE
RELATED INFORMATION SERVICES

INDUSTRY GROUP	INFORMATION SERVICES MODE	1983 VOLUME (\$M)	1988 VOLUME (\$M)	AAGR (%)
DISCRETE MFG.	APP. SOFTWARE	672	2,991	35
	CUSTOM SOFT. DEV.	730	1,954	22
	INTEG. SYSTEMS	1,207	4,275	29
PROCESS MFG.	APP. SOFTWARE	264	1,201	35
	CUSTOM SOFT. DEV.	427	1,109	21
	INTEG. SYSTEMS	445	1,292	24
BANKING/FINANCE	APP. SOFTWARE	936	4,319	36
	CUSTOM SOFT. DEV.	311	961	25
	INTEG. SYSTEMS	594	1,713	24
RETAIL DISTRIB.	APP. SOFTWARE	258	1,139	35
	CUSTOM SOFT. DEV.	125	209	11
	INTEG. SYSTEMS	287	882	25
TRANSPORTATION	APP. SOFTWARE	158	995	45
	CUSTOM SOFT. DEV.	88	177	15
	INTEG. SYSTEMS	172	458	22
INSURANCE	APP. SOFTWARE	545	1,916	29
	CUSTOM SOFT. DEV.	260	597	18
	INTEG. SYSTEMS	276	685	20
IS TOTAL	APP. SOFTWARE	4,168	18,211	34
	CUSTOM SOFT. DEV.	5,023	11,531	18
	INTEG. SYSTEMS	4,342	13,361	25



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EXHIBIT II-2

MOST IMPORTANT BUSINESS FACTORS

FACTORS	PERCENTAGE OF RESPONDENTS
ENDING OF REGULATIONS	100%
NEED FOR PRODUCT DIFFERENTIATION	83%
INCREASE IN MERGERS	75%
CHANGES IN BANK OPERATIONS AND SERVICES	75%
NEED TO PROVIDE MORE INFORMATION OVER GREATER DISTANCES	67%
CASH MANAGEMENT AND CORPORATE TREASURY FUNCTIONS	67%
NEW CREDIT VEHICLES AND PROCESSING MODES	58%
CHANGES IN TECHNOLOGY	50%

BASED ON 12 INTERVIEWS

EXHIBIT II-3

AREAS IN BANKING WHERE
DEMAND WILL BE GREATEST
FOR INFORMATION SYSTEMS ACTIVITY

AREA	PERCENT IDENTIFYING AREA	
	BANK RESPONDENTS	VENDOR RESPONDENTS
RETAIL	83	83
INTERNATIONAL BANKING	83	83
DOMESTIC WHOLESALE	67	50
COMMERCIAL OR SMALL BUSINESS	0	17
TREASURY	50	33
TRUST	33	17
CONTROLLER	17	17
ADMINISTRATION	0	0

EXHIBIT II-4

WHAT CAPABILITIES WILL BE
EMPHASIZED IN NEW APPLICATIONS

CAPABILITY	PERCENTAGE OF RESPONDENTS	
	VENDOR	USER
DATA COMMUNICATION TECHNOLOGY IN GENERAL	83	67
DATA COMMUNICATION FOR LARGE IBM SYSTEMS	83	83
DATABASE APPLICATIONS FOR LARGE IBM SYSTEMS	67	67
NEW COMMUNICATIONS TERMINAL CAPABILITIES	33	67
NEW DEVELOPMENT METHODS	33	50
ABILITY TO INTEGRATE APPLICATIONS	33	33

EXHIBIT II-5

ALTERNATIVES TO INCREASE REVENUES

ALTERNATIVE	PERCENT OF VENDORS
BEGIN TO OFFER OR OFFER MORE APPLICATION PACKAGES	100%
EXPAND BANKING AND FINANCE AREAS SERVED	83%
OFFER TURNKEY SYSTEMS	50%
DEVOTE MORE RESOURCES TO INSURANCE	33%
OFFER PROCESSING SERVICES	33%
OFFER FACILITY MANAGEMENT	17%
DEVOTE MORE RESOURCES TO MANUFACTURING	17%
DEVOTE MORE RESOURCES TO OTHER INDUSTRIES	17%
OFFER SYSTEM SOFTWARE PACKAGES	17%
ENTER NEW GEOGRAPHICAL AREAS	33%

BASED ON INTERVIEWS WITH 6 VENDORS



EXHIBIT III-1

WHAT IS IMPORTANT FOR AN APPLICATION
VENDOR SERVING BANKING AND FINANCE

FACTOR OF IMPORTANCE	AVERAGE RANKING ON A 1-5 SCALE WHERE 5 = MOST IMPORTANT	
	BY USER/PROSPECT	BY VENDOR
METHODOLOGY	3	3
GOOD SUPPORT	4	4
APPLICATION EXPERIENCE OF CURRENT IMPORTANCE	4	4
APPLICATION PACKAGES THAT ARE OF CURRENT IMPORTANCE	4	5
GENERAL APPLICATION PACKAGES	2	3
SYSTEM SOFTWARE PACKAGES INCLUDING DBMS	3	4
FAST TRACK, PROTOTYPING METHODS	4	4
GOOD REPUTATION	4	4
KNOWLEDGE OF SOFTWARE FOR LARGE IBM SYSTEMS (E.G., CICS, IMS)	4	5
GOOD MARKETING PLANS	3	4
GOOD SALES SKILLS	3	5



EXHIBIT IV-1

RANGE OF SERVICES AVAILABLE
FROM VENDORS OFFERING CUSTOM
APPLICATION DEVELOPMENT FOR
THE N.Y. BANKING MARKET

VENDOR	SERVICES OTHER THAN CUSTOM DEV. FOR BANKING/FINANCE				
	APP. PKGS.	TURNKEY	PROC.	HARDWARE	OTHER
GEISCO	X	X	X	TERMINAL VENDOR	1,2
AGS	X			MICRO DISTRIB.	1,2
CTG	X	X	BATCH		1,2
MONCHIK WEBBER	X	X		OEM VENDOR	1,2
LIGICA	X			DATA COMM.	1,2
SSI	X				1,2
COMTEX	X	X	X		1
COMPUTER HORIZONS					1,2
FREYBURG		X			
CGA	X	X		OEM VENDOR	1,2

1 - INDICATES THAT THE FIRM SERVES MARKETS OTHER THAN BANKING
AND FINANCE.

2 - INDICATES SERVICE TO AREAS OUTSIDE OF NEW YORK CITY.

EXHIBIT IV-2

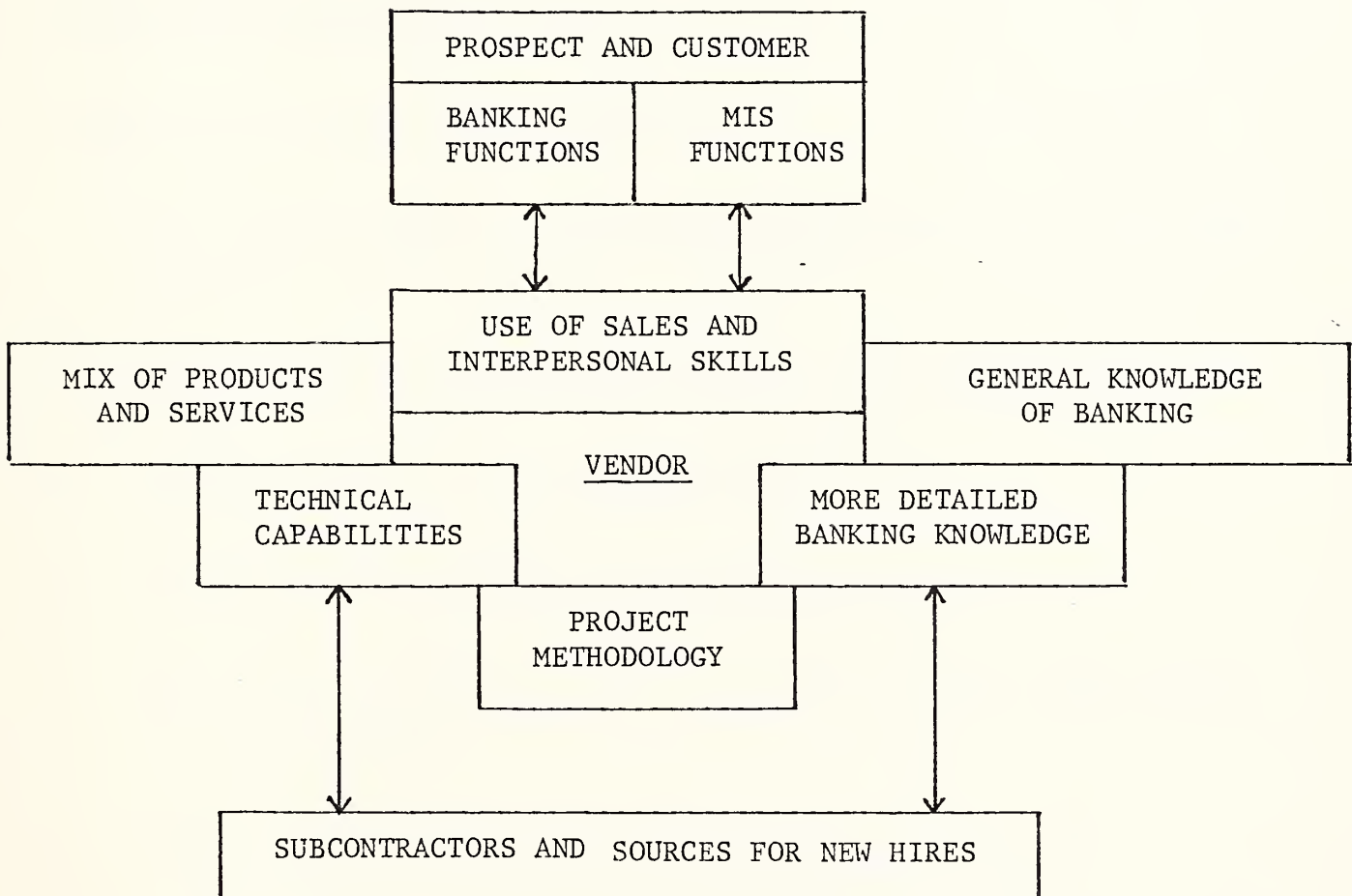
SALES TRAINING AND SALES TECHNIQUES
MENTIONED BY VENDORS

<u>SALES TRAINING AND TECHNIQUES</u>	<u>PERCENTAGE OF RESPONDENTS</u>
● USE OF SALES CONSULTANTS TO TRAIN AND AID STAFF	25%
● USE OF AUDIO VISUAL TRAINING AID FOR SALES	38%
● USE OF ESTABLISHED METHODS FOR CONTACTING AND QUALIFYING PROSPECTS AND CLOSING BUSINESS	50%
● RECRUITMENT OF PROVEN SALES PERSONNEL	63%
● USE OF A PLAN FOR DEVELOPING FRIENDLY RELATIONS WITH PROSPECTS AND CLIENTS	50%
● USE OF PLANNED METHODS FOR HAVING CLIENTS HELP TO GAIN BUSINESS ELSEWHERE AT AN ACCOUNT	50%
● REHERSAL OF SALES SITUATIONS	50%

8 VENDORS RESPONDED TO THESE QUESTIONS.

EXHIBIT VII-1

A MODEL OF THE ORIENTATION OF FUNCTIONS
FOR A VENDOR OF APPLICATION
DEVELOPMENT SERVICES



EVALUATION OF THE CURRENT BUSINESS AND STRATEGIC PLAN OF CAP INFORMATION SYSTEMS INC.

I. EXECUTIVE SUMMARY

A. PURPOSE

- The purpose of this study is to review the current business and market of CAP Information Systems Inc. and to provide a critique of the strategic alternatives recommended for 1984.
- The study will consider the following items:
 - The market segments currently being addressed and needs within those segments.
 - Business developments which will enhance current market targets.
 - Additional markets that might be addressed.
 - The products and strengths of CAP Information Systems.
 - The strategic objectives of CAP in relation to market needs and the strengths of the firm.
 - The market niches suggested by the strategic plan.
 - The extent to which the plan focuses on more profitable areas of business or product strategies.
 - The relation of the objectives and the action plan which has been formulated.

- The place of UNIX in the objectives developed by CAP.
- The perception of UNIX in the financial community.
- Whether UNIX should be used as the chief vehicle for CAP activities or as just a supplementary capability.

I. B. CONCLUSIONS AND RECOMMENDATIONS

- CAP Information Systems is addressing a market segment that has considerable potential over the next five years.
- The volume of sales for custom software and integrated (turnkey) systems in the banking and finance market will increase by three times during 1983 and 1988 and the sales of application software will increase by over four times during this period.
- In order to participate in this growth, INPUT recommends that:
 - A broader range of products be offered including application software and turnkey systems.
 - An expanded sales role be introduced in order to presell prospects, uncover potential business and further penetrate accounts.
- INPUT also recommends that CAP consider:
 - Offering consulting services to help prospects select, test and install application packages.
 - Offering consulting services to help firms evaluate system based products and to participate in business planning that has system implications.
- The introduction of new products and services and the expansion of the sales role will make it difficult to consider entry into new market segments.
 - Some of the products and services that are selected might be chosen with the good of entering other industries in the future.
 - Profitable industries to address in this region would include manufacturing and retail distribution.

- Within the banking and finance market, INPUT would recommend that a general level of knowledge be gained in certain areas of interest and that interaction with possible prospects in those areas be permitted to steer CAP into specific application targets.
- A few vendors as well as an accounting firm have reported that they use this strategy. One of these vendors indicated that this approach recently led them into a new banking area where enough knowledge was gained to support bids to other banks.
- The areas of general interest which CAP should consider based on the activities of other vendors and comments of users include:
 - International banking.
 - Funds transfer and cash management.
 - Wholesale banking products.
 - Treasury automation.
 - Trading systems.
 - New retail banking systems.
 - "CMA" types of products for banks, brokerage houses and insurance companies.
- The first five items would seem best suited to the present strengths and plans of CAP.
- CAP has sufficient strengths in project methodology to project an image of quality in the marketplace. Contact with clients of CAP confirms this impression.

- Specific technical and functional strengths may not be available in the depth required in the market, but this does not hinder some competitors. A number of vendors including Arthur Andersen utilize people on a "body shop" basis when necessary.
- INPUT supports the planned use of such resources by CAP.
- The contract software maintenance service offered by CAP is a strength of the firm. It should be offered together with other products and services as a method of broadening the image of CAP and further penetrating customers and prospects.
- The service should be evaluated for expansion into other market segments and geographic areas since the concept of this service is being discussed by other vendors. At least one major vendor is thinking of introducing the service. A joint venture with a firm specializing in hardware maintenance might be interesting to consider.
- The strategic objectives of CAP will answer several types of needs in the market.
- The development or acquisition of packages and recruitment of personnel with relevance in the New York market will address market needs directly. INPUT has recommended that the specific needs that packages and personnel skills address be determined through interaction with prospects and clients.
- The availability of more products and services in itself will be attractive to many firms who feel that this provides more assurance that a vendor will select economic alternatives. One prospect of CAP noted that he wanted vendors of custom work to be aware of situations where packages would be used.
- The strategic objectives also include an expansion of sales capabilities. This addresses a basic need of the firm. The expansion of sales capabilities should take account of the techniques used by competitors to uncover possible business and presell prospects.

- Many jobs that are supposed to be awarded on the bases of competitive analysis and the completion of forms are actually granted to or aimed at one vendor.
- Vendors also start to work with some clients before contracts are awarded.
- The sales techniques utilized by vendors also develop opportunities for joint ventures with users and provide information on the need for packages and turnkey systems.
- The need for a new approach to sales related interaction with firms in the market should be addressed immediately since other items in the CAP action plan are dependent upon it. INPUT suggests that discussion and workshops may provide means of developing an awareness of the techniques utilized in the market.
- The development of a wider range of products and services of interest to the market and an increased sales capability should enable increased levels of revenue to be gained.
- In addition to the products mentioned in the strategic plan, INPUT recommends that:
 - The workstation concept be explored for use as a means of expanding capabilities for corporate treasurers utilizing cash management systems, for originating loan agreements and possibly for offering a more comprehensive "CMA" product (the workstation could be located in the personal trust area).
 - A DSS capability can be developed in UNIX for use on an IBM PC and possibly on the workstation. This might provide an attractive test vehicle for UNIX that could be sold to many different functions in banks, brokerages and insurance companies.

II. MARKETPLACE ANALYSIS

A. BANKING AND FINANCE AS A MARKET TARGET

I. Relative Potential of Market Segments

- The market for application software related services other than a portion of facility management work is shown for selected industry groups in Exhibit II-1.
- Custom software includes both fixed price and time and material contracts.
- These modes of service are illustrated since they are relevant to the current business or plans of CAP.
- Application software and integrated systems include both industry specific as well as cross industry products. Cross industry refers to products such as accounting modules or modeling that could be sold to more than one industry group.
- In addition to custom software development, there are other custom services including education, consulting and operation of client equipment. These services are projected to grow from \$160 to \$431 million between 1983 and 1988 at an AAGR of 22%.
- Application software and custom software development for the banking and finance market should grow at a rate higher than the average for other industry groups according to Exhibit II-1.
 - The market for application software will grow more rapidly in transportation and medical industry segments.
 - The market for custom software will grow more rapidly in banking and finance than all other segments.

- The total dollar volume of growth in discrete and process manufacturing and in the federal government will be higher than the growth in banking and finance for custom software development in the next five years, however.
- Within New York City, the market for the services being discussed, is undoubtedly largest in banking and finance according to representatives of 6 firms active in software development in the area.
- Manufacturing firms offer opportunities in the surrounding areas of Connecticut, New Jersey, and New York State including Long Island.

2. Business Developments Favoring the Banking and Finance Market

- The business factors that vendors and systems planning or user personnel in banking and finance feel are most important in generating need for information services are shown in Exhibit II-2. The factors are worded in the language used by respondents.
- These business factors correspond fairly well with most of the developments which CAP Information Systems anticipates in banking and finance. The shortage of credit foreseen by CAP was not mentioned by respondents, but the need for new credit vehicles and processing methods for credit was mentioned.
- Each of these factors will generate business in the banking and finance segment.
 - The ending of regulations provides the opportunity to develop new payments and investment services such as bank money market accounts and discount brokerage services.
 - The increase in product differentiation is illustrated by the variations of cash management accounts for individuals which brokerage firms, banks and insurance companies are now planning and developing.

- The increase in mergers is expected to generate a continuing need for information service firms to consolidate operations and processing for all classes of banks customers.
- New cash management and treasury work station capabilities are predicated on the use of networks and computing systems.
- The need to provide more information over greater distances corresponds to the globalization of business foreseen by CAP. This will increase the need for networks and terminal capabilities and will probably generate the greatest demand for investment in the near future.
- Changes in technology in general appear to be a significant business factor since the desire for new products creates a climate where many opportunities made possible by technology will be acted upon.

3. User Needs in Banking and Finance

- Vendors and user personnel interviewed for this study feel that international and retail banking functions will generate the most information services activity during the next few years as shown in Exhibit II-3.
 - However, respondents pointed out that they expect a moderately high level of activity in all areas of banking.
 - The increasing interaction between banking functions (e.g., personal trust and retail banking or international banking and domestic wholesale banking) will also tend to spread the demand for new and enhanced systems across all banking functions.
 - Users also stress that demand is high for new applications in all banking functions.

- The vendors who were interviewed and industry sources who were contacted felt that the following application areas in particular would witness an extensive amount of software development activity:
 - Integrated international banking systems that could facilitate financial operations for banks or for multinational corporations.
 - Improving international network capabilities that could provide more rapid means for banks to monitor and control monetary exposure and to aggregate information.
 - Evolving retail banking systems that will combine functions for sets of customers (e.g., personal trust and retail banking for the affluent).
- The specific needs or capabilities which vendors and users expect to need for new systems are shown in Exhibit II-4. The highest level of need focuses upon:
 - Data communication for large IBM systems.
 - Database applications for large IBM systems.
 - The use of distributed or communicating terminal capabilities (or micros linked to mainframes).

B. ALTERNATE MARKETS AND MODES OF SERVICE

- Alternatives that might be considered include:
 - Expansion of products and services in the banking and finance market. (into retail banking or trust for example).
 - Opportunities in manufacturing, retail distribution and possibly transportation.

- Banking and finance industry specific software applications as well as cross industry software applications that would have appeal in banking and finance as well as other industries.
- System software that would have appeal in banking and finance, but could be sold elsewhere.
- An expansion of custom work to include more types of system related consulting such as system planning, aid in the evaluation of application packages or product development.
- Integrated (turnkey) systems that would appeal to the banking and finance market as well as to financially related applications, in other industry segments. These systems could utilize packaged or custom application software.
- Facility management in the financial market to serve user owned equipment.

C. EVALUATING ALTERNATIVES FOR CAP

- This evaluation is made on an assessment of the market without reference to the strategic plans of CAP Information Systems.
- The factors which would appear to influence the choice of industry markets or service modes include:
 - The level of business and expertise now available in the New York City office.
 - The experience of CAP in Great Britain and the U.S.

- The investments which CAP is prepared to make to add products, services or capabilities.
 - The willingness of CAP to increase expense levels to seek work in geographic areas other than New York City.
 - The extent to which new markets or products would blend with present business.
- Past and present experience as well as the forecast for business in the banking and finance market favor a continued focus on banking and finance.
 - Manufacturing offers appeal as a market and CAP could call upon resources in the United Kingdom to enter this market.
 - The number of manufacturing companies near New York could provide an opportunity to CAP if a decision were made to enter this field.
 - CAP does have expertise in operating systems, DBMS and communications software for IBM equipment that would be useful in many manufacturing companies. The firm, Computer Partners, which set up an office in New Jersey several years ago, has found a considerable market for these skills in manufacturing concerns.
 - It would be necessary to investigate the needs of manufacturing concerns in the region and invest in application products (e.g., MRP and/or distribution systems) in order to compete in this field.
 - Vendors active in the field stress the use of application packages.
 - A high percentage of custom work is related to the use of packages.

- It would be necessary to devote funds to move relevant personnel from the United Kingdom to New York for a period of time.
- Additional expenditures would also be necessary to carry on sales and project activities with manufacturing firms since they are located outside of New York.
- Without further analysis, costs would seem higher and the probability of return would seem lower for manufacturing than for an expansion of business in banking and finance.
- Business could be initiated in the retail distribution market within New York City. This market appears interesting in view of the growth in use of application packages and integrated systems.
 - Investments in research and products would have to be made.
 - Sales and support personnel would have to be trained in this industry.
 - Opportunities in banking and finance appear at least as favorable as retail distribution or other market segments.
- Opportunities in related market areas such as insurance, entry into new banking and finance application areas, and a broader set of products for banking would appear to offer the highest probability for increasing revenues.
- Some vendors engaged in custom work in the banking and finance market were asked what alternatives they felt could be desirable to increase their revenues.
 - As shown in Exhibit II-5, these vendors favored an expansion of business to other banking and finance industry functions or to a broader line of products.
 - The only additional market segment that received much attention was insurance.

- The additional products considered by the vendors highlighted software application packages and integrated or turnkey systems.
- These vendors favored additional products for several reasons:
 - They felt that multiple products provide more opportunities to obtain revenue after an account had been contacted.
 - They pointed out that some products could be combined to meet a user need (e.g., custom software and application packages).
- Users also note that it is desirable to have vendors offer a group of application development products.
 - It reduces the number of vendors that is necessary to deal with.
 - It provides an opportunity for a vendor to use more products or consider more alternatives for developing an application system.

III. REVIEW OF CAP INFORMATION SYSTEMS

A. OVERVIEW

- The firm has considerable experience in the banking and financial market in Great Britain and New York including past assignments in most functional areas of banking:
 - Retail banking and branch accounting including ATM and videotex systems.
 - International banking including foreign trade systems.
 - International and domestic funds transfer.
 - Wholesale banking including cash management and lending.
 - Securities and trust including portfolio management.
 - Controller's office.
 - Treasury, money market, foreign exchange and financial markets activities.
- The areas of key strength in the New York market include international and wholesale banking, trading and related systems.
- CAP Information Systems remains relatively unknown in the New York market however. Contacts at banks and other financial institutions and vendors are unaware of CAP. Even some contacts at institutions where CAP has done work such as Citibank are unaware of the CAP name.

B. SERVICE COMPONENTS

I. Methodology

- The firm has considerable experience with and knowledge of the formal techniques of project management and system planning and development.
- References or discussions with senior personnel of CAP should convince prospects that CAP can be regarded as a leading vendor of quality service.
- Contacts at several banks where CAP is known confirmed that CAP Information Systems has this reputation.
- This reputation differentiates CAP from some system houses that compete in the New York region.
- This capability should enable CAP to be considered for several types of work:
 - Key application development projects where systems are important to the business of companies.
 - Project management, system planning or feasibility studies where companies want a competent and quality minded firm to help direct or steer their internal activities.
- The relative importance of methodology must be considered in the market, however. The responses from vendors and users shown in Exhibit III-1 provides information on this point.
 - This exhibit suggests that quality work is important, but that more rapid means of obtaining results are desirable for certain jobs.
 - Other factors such as knowledge of current needs, application packages and expertise in data communication and data base systems used on IBM equipment are also important.

- When asked to comment further about these points users stated that:
 - When quality work is needed, methodology is important.
 - Major vendors are all able to supply quality work when it is needed.
 - Other capabilities in addition to quality work are necessary to win a large percentage of jobs from our firm.
- Several vendors noted that they want to win jobs that have to be done with quality methods (life cycle) as well as jobs that can be done with less stringent methodology (fast track or prototyping).

2. Technical Capability

- CAP Information Systems has competence in the technical areas noted in Exhibit III-1; data communication and data base capabilities utilized in an IBM environment according to project controllers.
- CAP also has knowledge of the IBM operating systems utilized at large banks and financial institutions in New York according to the project controllers.
- The 1983 branch plan for CAP states that depth is missing in these areas of expertise. There has also been difficulty in recruiting personnel to supplement the staff in these areas.
- CAP does have a broad range of capabilities in general, in data communications, data base applications, development techniques, terminal utilization and programming languages (COBOL and assembly language) used in the New York region.

3. Functional Knowledge

- The 1983 branch plan states that the New York office does not have sufficient depth in international and commercial banking, money markets, securities, and other important areas in relation to client needs.

- The resources available in Great Britain may be able to assist New York when needed.
- This lack of depth has been compounded by the difficulty encountered in recruiting personnel in New York.
- The office has not been able to overcome deficiencies in the depth of technical or functionally trained people through other means.
- Major firms serving the banking and finance market through the use of professional services or other products have found alternatives for expanding their capabilities in order to sell or perform business. They have used such tactics as:
 - Employing consultants or subcontractors.
 - Using packages from other firms.
 - Finding systems in use elsewhere which could be licensed.

4. Confidence

- Project controllers and other members of the CAP staff have confidence in their knowledge and capabilities. They are also proud of the company and its internal training program.
- The confidence and morale of the staff is an asset that should have a beneficial effect on prospects and customers.

C. PRODUCTS AND SERVICES

- CAP offers professional services on a time and material basis for the development of application software or custom systems. Some assignments in feasibility studies, project management and system design have also been undertaken.

- Several users noted that they preferred fixed price contracts.
- CAP believes that it offers services at a high cost relative to other suppliers. Other services may charge as much or more per day for staff members but be able to reduce the total development cost by using software package.
- Effort has not been taken by CAP to develop packages or modules during software development that could be used in other assignments.
 - Some vendors will spend more on certain assignments in order to develop packages that can be used elsewhere.
 - These packages might be transaction monitors, data base tools or methods of handling certain banking transactions.
 - Some vendors develop entire packages by such means for sale as a separate product. Packages have also been developed as joint ventures with customers.
- In addition to offering professional services for custom development work, CAP also offers it for application software maintenance services on a contractual basis.
- The contract software maintenance service has been offered for ATM units as well as for IBM mainframe installations.
- The contract service tends to generate additional business.
 - Where applications did not have sufficient documentation or up to date source listings so that a contract could be signed for software maintenance CAP offered to perform work to bring the application systems up to an acceptable level.
 - Enhancements and other work increased billings to a level of about twice the original contract amount.

- The contract service provides a source for additional work for a variety of assignments including development, capacity and equipment planning studies, and planning for expansion of services or cost allocation.
- The concept of this service appealed to users that were contacted during this study. It is a service that could be launched in other locations.

D. MARKETING METHODS

- Project controllers currently engage in sales efforts as well as project management, customer relations and administrative activities. The methods of sales contact and development include:
 - Soliciting jobs from present and past customers.
 - Following up leads on contacts from possible prospects.
 - Phoning and writing companies that appear to be likely prospects.
- Strategies are not followed to further penetrate existing accounts by asking a customer where else in his firm, services could be used, and whether he would recommend CAP to that office. Attempts to become friendly with customer management and personnel or techniques of bringing possible new projects to the attention of customers are also not utilized.
- CAP project controllers hope that their professional methods and expertise will lead customers to ask them to engage in more work.
- Strategies are not followed to find new clients through the weight of numbers (constant phoning and mailing) or persistent methods of establishing contact and becoming friendly with prospects.
- Advertisements and mailings do not seem to have contributed much support during 1983.

IV. ASSESSMENT OF COMPETITION

A. OVERVIEW OF COMPETITIVE ENVIRONMENT

- There are over one hundred firms that have supplied custom application development services to banking and financial institutions in or near to New York City during the past year. Some custom work involved only consulting on system design or programming or modification of packages.
- The firms that serve the market include:
 - Large information services firms such as GEISCO, NDC and EDS.
 - Firms offering technical capabilities in database communications or DSS systems such as Information Builders, On-line Software or Desktop Financial.
 - Firms who offer application software packages known in certain areas of banking or the brokerage industry such as Hogan, Monchik Webber and Index.
 - Firms known mostly for custom development work such as AGS or Computer Horizons.
- Competitors also include public accountants and general consultants such as Arthur Andersen, Coopers and Lybrand, and Main Hurdman who develop application systems, market packages and offer general consulting services.
- In the branch plan of CAP for 1983-84, there was worry that taking on "body shop" assignments would blur the image of CAP.
 - There is a sufficient mix of services offered by vendors so that the images of many firms could be blurred.

- Other IS vendors feel that each service should be sufficiently identified so that they can maintain their reputation for quality in certain services.

B. PRODUCTS AND SERVICES

- The firms that engage in custom application development offer a range of products and services as shown in Exhibit IV-1.
- The range of services that are offered permit these vendors to defray sales and marketing expenses over more products.
- The vendors also point out that contacts regarding other products can provide an opportunity to sell custom work.
 - Many sales of application packages result in work to customize the package or link it to other systems.
 - Prospects for packages may also turn to custom work as an alternative.
- Firms that offer packages and/or turnkey systems also note that it expands the options available in custom work as well. The application package or turnkey system can be used as a building block to develop systems.
- Two firms mentioned that a business focus on application packages had led them to think of opportunities for products when they discussed custom work with prospects and customers.
 - Opportunities emerged where these firms were able to make arrangements to develop systems that could be installed at clients and then modified for sale as a product.
 - Clients profited from these situations through royalties or payments that reduced costs. One of the largest financial institutions in New York participates in royalties in this manner.

- Several vendors noted that they offer software packages and turnkey systems because they expect earnings from custom software work to decline. They expect banks and other financial institutions to use more purchased systems (buy versus make) to satisfy development needs.
- Some vendors now tell prospects that they are prepared to search for software products to meet needs as well as to develop systems, and they have picked up assignments of this type.
- In addition to the services listed in Exhibit IV-1, some consultants are obtaining general business consulting assignments related to the banking and financial industry. These assignments offer a high margin of return and may lead to custom work.

C. SALES AND MARKETING METHODS

- All the competitors who were interviewed used former technical people in some of their sales positions.
- Most of the sales personnel or executives who handled sales for competitors did not also participate in project management, although they were concerned with customer relations.
- Competitors of CAP emphasize sales training and sales techniques in their business as shown in Exhibit IV-2.
- A few competitors suggested that their efforts to land an account or further penetrate it are like campaigns in which everyone is involved.
- Some firms also stay in contact with people that they know at various banks and financial institutions or at other vendors in order to learn about work being done or considered.
- One vendor with a very successful growth record has taken on executive search assignments as another method of staying in contact with prospects.

- The vendors who were interviewed do not generally rely on advertising in publications to gain custom assignments. They feel in general that mailings and routine contact by phone are necessary to obtain work.
- Vendors feel that advertisements are more necessary for application software or turnkey systems.

D. PRICING

- Pricing is a complex factor in the custom development business.
 - Companies who are interested in lower prices for development work are likely to explore the use of packages or approaches involving prototyping more intensively.
 - Companies who are concerned about obtaining a quality system are not going to make decisions based on price alone.
- Vendors who are obtaining assignments for important systems do not feel that they have to underbid their work. They feel that knowledge of applications and technical skills will be most important.
- Several firms who engage in quality work felt that the range of charges for time and material work was from \$300/day for junior programmers to \$1200/day for senior technical or systems people or project managers.
- Some vendors do practice aggressive competition on the basis of price, but larger and more respected vendors for custom work claim that they try to avoid becoming involved in that type of situation.
 - They try to presell an account on their capabilities, quality and understanding of a job so that their bid will have an extra edge.

- They find out when a showdown is likely on price and try to avoid participating in efforts that have a low percentage of winning.
- They suggest that a job be done in phases or be approached differently in order to reduce the initial or total cost.
- These techniques illustrate the advantages that vendors can gain by developing contacts with prospects.

V. CRITIQUE OF THE STRATEGY OF CAP INFORMATION SYSTEMS

A. ANALYSIS OF THE STRATEGY

- The characteristics of the ideal U.S. CAP Branch as formulated in the document on strategy alternatives are relevant in general to the New York marketplace.
 - Activities should be market driven and satisfy client needs while monitoring the market opportunities. This should result in new product offerings of application packages and turnkey solutions since this is what many prospects are looking for.
 - The branch should provide real industry and technical expertise in the niche that it occupies. These are factors of importance in this segment today.
 - New ideas and technologies should be utilized when possible. Such work can attract clients as well add to revenues.
 - Quality and perhaps the effort to supply prospects what they really need should be emphasized rather than price. Several vendors pointed out that they helped clients to find and install appropriate application packages rather than bid custom work at low prices which might not result in a quality job.
- The strategic objectives of CAP Information Systems stress the need to optimize current resources and to continue to recruit and retain staff in the disciplines relevant to the New York market.
 - These objectives suggest that efforts will be made to ensure that staff capabilities will meet the technical and functional needs of the New York market.

- The objectives also suggest that the staff will become more adept at contacting and working with firms in New York in order to find out what they really need or what they will buy.
- These points address the strengths of competitors in the New York market.
- As the CAP document on strategic alternatives suggests, the problem in New York is sales. Competitors, who are successful in New York, spend considerable time interacting with companies that might be prospects or who might know about needs at other banks and financial institutions in the area.
- New techniques, incentives and marketing aids have to be introduced in sales.
- More personnel strength has to be invested in sales activity, through new hires or off loading work from project controllers.
- The strategic objectives of CAP also emphasize the development or acquisition of packages relevant to the New York market.
- These packages should serve several purposes in addition to increasing revenue through direct sales.
 - They should be useful (or modules of them should be useful) in some development assignments.
 - They should generate custom work to tailor the package to an environment or modify or develop other systems in the same company.
 - They should address areas where CAP has experience.
- The application packages could be concerned with the treasury and trading functions, integrated international systems or wholesale banking.
- They could also serve cross industry needs and be smaller in scope. For instance, a decision support or treasury work station system in programming language "C" might be a door opener in many large institutions.

- The targets for application packages should be selected through work and research with potential users or coventurers who might share in the earnings.

B. REVIEW OF ACQUISITION AND OTHER OPPORTUNITIES

- The VAR relationship that CAP is considering would provide an entree to many firms in the banking and financial segment since these firms are interested in UNIX and programming language "C."
- Several large banks stated that they are planning to install one or two UNIX systems on a trial basis.
- There is not enough market acceptance to ensure any flow of UNIX work.
 - Until the acceptance level increases, the most favorable course of action would be to install trial systems and consider marketing software applications and turnkey systems that utilized UNIX.
 - Participation by a coventurer might provide an opportunity to develop significant UNIX application packages.
- An intelligent workstation for trading functions offers an opportunity for work in many firms in the financial services industry. It could provide an opportunity for reshaping the branch providing that business was obtained.
- This project appeared of interest to people that were contacted in treasury and trading functions or systems planning areas serving those functions in five - financial firms. Several of these contacts thought the capability would be of use in international trading and funding offices overseas.
- The ability to handle information from several vendors and communicate with multiple networks was of greatest interest.
- This type of capability is under exploration at three of the banks where contacts were made. It was felt that work with potential users and the consideration of interesting features would be necessary to gain a foothold in this market. The use of UNIX to develop this product might help to gain notice for it.

- Market research would be necessary to test what market penetration might be possible.
- As the strategic plan suggest, acquisitions and other opportunities must be planned and executed in a timely manner.
 - Financial and managerial resources must be obtained when needed.
 - The branch must be molded to exploit opportunities.
- The opportunities that are listed include:
 - Acquisitions including companies and/or products.
 - Business relationships with other firms in the industry.
 - Geographic expansion of S.S.S.
 - Expansion of custom work and new products into surrounding geographic areas.
- A program of interaction with potential users and/or coventurers does not seem to be proceeding in parallel or at the same pace as the exploration of potential products or services. This is due most likely to the lack of a business development manager.
- In order to select products and services wisely, vendors report that close contact with potential users is necessary.

C. RELATIONS OF OBJECTIVES AND ACTION PLAN

- The action plan addresses the use of seniors in the current tasks of project controllers: project management, sales and administration. This suggests that project controllers will assume an expanded sales role in some situations.

- There is a shortage of seniors in the New York office to assume these roles and it would be necessary to hire people into these roles before progress could be made.
- Also, the issue of a changing or expanded role in sales for project controllers is not addressed. Perhaps this issue should be addressed first in the action plan.
 - The need for a more interactive sales role could be agreed upon, and project controllers could orient their activities to support this goal, before or during the time period when new seniors and sales managers are being recruited.
 - This would be one means of increasing marketing efforts as soon as possible. It will also support the selection of new products and services.
- Other methods of increasing sales and marketing activities might require a sales development program administered by the president of the branch or the recruitment of a sales development manager devoted to this goal.
- Technical personnel can be recruited and integrated into the organization as suggested in the action plan. The integration of sales managers or personnel with sales skills could be more difficult unless the sales orientation is changed.
- The recruitment of some technical personnel might be delayed so that sales interaction can be used as a means of identifying the skills to be sought.
- Planning for sales bonuses and incentives should proceed rapidly as suggested in the action plan. The incentives should encourage all branch technical staff to help increase sales.

VII. STUDY FINDINGS

- The primary market segment being addressed by CAP Information Systems, banking and finance, offers a healthy outlook for the growth of professional services as well as application software and turnkey systems during the next five years.
 - Areas in the market which stand out to users and vendors include international and retail banking systems.
 - Wholesale banking products and trading systems were also mentioned as areas of opportunity. Funds transfer and cash management applications received high emphasis in the wholesale area from several vendors.
 - There is a general feeling that opportunities exist throughout banking and finance as Alfred Burkeley of Alex Brown and Sons noted in a recent newsletter.
- The business developments foreseen by CAP as influences on the market are confirmed by users and vendors. This factors should encourage the development and enhancement of systems throughout banking as well as in the brokerage and insurance industries.
- The January 25 - February 7 issue of Financial World notes that banking has everything a software house could hope for: complexity, rapid change and hefty recurring revenues.
- However, the ability of a vendor to do well without a product and service strategy suited to the market is dubious, according to several of the vendors in the market.
- Additional markets which CAP could consider include manufacturing and retail distribution, which have good growth opportunities in this region for application development services.

- As the model indicates, vendors engage in continued interaction with likely prospects, relying upon interpersonal skills and techniques, a general knowledge of relevant banking areas and a mix of products and services that might be offered.
- As assignments are developed, internal and external capabilities in technical areas, project methodology and functional areas are brought in to the situation.
- One objective of this type of activity is to obtain sole source contracts or presell accounts before a job is put out for bid.
- The strategic objectives of CAP will move the firm into a better position in regard to the market and allow the strength of the firm to be utilized in a more productive way.
 - The increased range of products and services recommended in the plan and the increased emphasis on sales and marketing will move the firm toward the model shown in Exhibit VII-1.
 - This position should provide more opportunities for custom work as well as the sales of the new products and services.
 - The strength of the firm in technical areas, project methodology and functional knowledge of application areas of the market provides a basis for the growth of business planned in the strategic plan.
- Greater depth in technical and functional areas will be required to carry out the plan, and this is addressed in action steps for recruiting personnel and utilizing subcontractors.
- The analysis of vendor methods which has been made suggests that the acquisition of personnel skills be made in conjunction with the development of market areas. If contracts are made and the possibility of work is uncovered in a banking group concerned with international trading or cash management, subcontractors and new personnel should be recruited to supplement present skills in those areas if needed.

- Of course, some new recruits will be necessary immediately to supplement the senior members of the staff who are in short number. These recruits should help to relieve pressure on the project controllers so that they can engage in more sales activity.
- The market niches suggested by the strategic plan focus on areas where software packages, the use of a workstation and the past experiences of CAP might be utilized.
 - A trading workstation, as discussed in the strategic plan, appears to be an opportunity.
 - A treasury workstation which could be used at corporate location in conjunction with cash management systems might also be investigated. This type of system could be expanded in relation to current market offerings to include more opportunities for investment and the use of color graphics. This type of workstation might be used at smaller banks as a front end that could replace the service of network vendors.
 - A workstation for the origination of corporate loan agreements from the corporate departments of banks would offer an opportunity in terms of the factors noted.
 - A workstation in a personal trust department that provided expanded "CMA" types of services to high net worth clients might also be of interest. This type of system is being considered by several large banks.
- One other niche suggested by the strategic plan is to acquire a package or develop a relationship with the owner of a package that can generate custom work in many different areas of the market (e.g., a D.S.S.)
- The plan focuses on more profitable areas of business and product strategies in the following ways:
 - It allows sales and marketing expenses to be defrayed across more products and services.

- It provides more opportunities to penetrate accounts and sell a variety of services.
- It introduces products and services that offer a higher profit margin to other vendors in the industry (viz. application software, turnkey systems and consulting services).
- The action plan which has been formulated by CAP addresses the strategic objectives that have been selected. The changes to the plan suggested by this study are to initiate action more quickly to expand sales capabilities and to delay the acquisition of some new staff members until interaction with the market indicates which skills are most needed.
- UNIX appears to be a vehicle that CAP can use to increase its posture in the market.
 - It can be used to open doors and penetrate accounts.
 - It could lead to installations for testing the viability of UNIX at many firms in the market.
- Data processing professionals and some executives in the financial community are extremely interested in the potential of UNIX and the "C" language. However, no contacts believe that the market is ready to accept the use of UNIX for more than a few test jobs.
- The time scale for the acceptance of UNIX, providing that it is accepted, appears to be about two years.
- At this time, it would appear that UNIX should be thought of as a supplementary capability unless CAP is in a position to become a major factor in the utilization of UNIX.
- A product that would be of interest in the introduction of UNIX would be a more powerful modeling system or DSS. Perhaps this could be introduced on the workstation that CAP is contemplating.

- A DSS in UNIX would allow a firm to explore the viability of the concept as well as provide CAP a means of entering many banking departments.

